



1           9. A method for prognosis of a malignant neoplasm  
2 of a mammal, comprising

(a) contacting a bodily fluid from said mammal with an antibody which binds to an HAAH polypeptide under conditions sufficient to form an antigen-antibody complex and detecting the antigen-antibody complex;

7 (b) quantitating the amount of complex to  
8 determine the level of HAAH in said fluid; and

9 (c) comparing the level of HAAH in said fluid  
10 with a normal control level of HAAH, wherein increasing  
11 levels of HAAH over time indicates an adverse prognosis.

1 10. A method of inhibiting tumor growth in a mammal  
2 comprising administering to said mammal a compound which  
3 inhibits expression of HAAH.

1            11. The method of claim 10, wherein said compound is  
2    a HAAH antisense nucleic acid.

1           12. The method of claim 10, wherein said compound  
2 is a ribozyme.

1           13. The method of claim 10, wherein said tumor is  
2 derived from endodermal tissue.

1           14. The method of claim 10, wherein said tumor is  
2 selected from the group consisting of colon cancer, breast  
3 cancer, pancreatic cancer, liver cancer, and cancer of the  
4 bile ducts.

1           15. The method of claim 10, wherein said tumor is a  
2   CNS tumor.

1 16. A method of inhibiting tumor growth in a mammal  
2 comprising administering to said mammal a compound which  
3 inhibits an enzymatic activity of HAAH. 7 only 1

1 17. The method of claim 16, wherein said enzymatic  
2 activity is hydroxylase activity.

1 18. The method of claim 16, wherein said compound  
2 is a dominant negative mutant of HAAH.

1 19. The method of claim 18, wherein said dominant  
2 negative mutant HAAH comprises a mutation in a catalytic  
3 domain of HAAH.

1 20. The method of claim 16, wherein said compound  
2 is an HAAH-specific intrabody.

1 21. The method of claim 16, wherein said compound  
2 is L-mimosine.

1 22. The method of claim 16, wherein said compound  
2 is a hydroxypyridone.

1 23. A method of inhibiting tumor growth in a mammal  
2 comprising administering to said mammal a compound which  
3 inhibits signal transduction through the IRS signal  
4 transduction pathway.

1 24. The method of claim 23, wherein said compound  
2 inhibits IRS phosphorylation.

1 25. The method of claim 23, wherein said compound  
2 inhibits binding of Fos or Jun to an HAAH promoter sequence.

1           26. A method of inhibiting tumor growth in a mammal  
2 comprising administering to said mammal a compound which  
3 inhibits HAAH hydroxylation of a NOTCH polypeptide.

1           27. The method of claim 26, wherein said compound  
2     inhibits hydroxylation of an EGF-like repeat sequence in a  
3     NOTCH polypeptide.

28. A method of killing a tumor cell comprising  
contacting said tumor cell with cytotoxic agent linked to an  
HAAH-specific antibody.

1           29. A monoclonal antibody that binds to an epitope  
2 of HAAH.

1           30. The antibody of claim 29, wherein said epitope  
2 is within a catalytic site of HAAH.

1            31. The antibody of claim 29, wherein said  
2    monoclonal antibody is selected from the group consisting of  
3    5C7, 5E9, 19B, 48A, 74A, 78A, 86A.

1           32. The antibody of claim 29, wherein said  
2 monoclonal antibody is selected from the group consisting of  
3 HA238A, HA221, HA239, HA241, HA329, or HA355.

1           33. A composition comprising a monoclonal antibody  
2   that binds to an epitope of HAAH linked to a cytotoxic  
3   agent, wherein said composition preferentially kills tumor  
4   cells compared to non-tumor cells.

1           34. A kit for diagnosis of a tumor in a mammal,  
2   comprising the antibody of claim 29.

